

# Optimale ondersteuning voor optimale processen

## Teamcenter for Software Requirements Management

Cor Visser  
4-3-2008

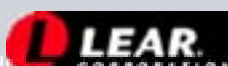
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### Agenda

- Introduction
- Optimal support for optimal processes
- Why Teamcenter for Requirements Management?
- Solution Overview
- Q&A

# INTRODUCTION

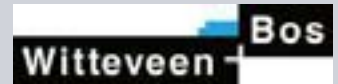
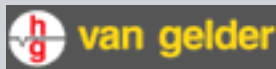
## Siemens PLM Software Customers using Teamcenter Systems and Requirements Engineering



## Teamcenter Systems Engineering users Benelux Building & Construction

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Building & Construction is rapidly evolving  
Customers require designs based on functional specs  
Need to manage complex designs for V&V to prove compliance with contract



## US Marine Corps System Command Analysis: Teamcenter has highest score.

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United States Marine Corps  
Marine Corps System Command  
C4I System Engineering and Integration

# Architecture Tools Analysis

25 April 2006

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	CORE 5.1	Oracle 5	MAI	Proteus 5.9	Rational SA 5.5.1	Hyperly 5.7	Teamcenter 2001	System Architect 16.3	TAO G2
3.1.2 Support data interchange standards (AP233)	Yes	Yes	No	No	No	No	Yes	No	Yes
3.1.3 Analytic & Manipulation									
3.1.4 Compare different versions of models	No	No	No*	No	Yes	No	No	No	Yes
3.1.5 Support executable SE models	Yes	No	No	No	No	Yes	No	No	Yes
3.1.6 Repository									
3.1.7 Version database (Proteus, COCC)	COCC	Relational	Relational*	Relational*	Proprietary	None	COCC	Relational	Proprietary
3.1.8 Allow multiple users to update	Yes	Yes	No*	Yes	Yes	Yes	Yes	Yes	Yes
3.1.9 Model versioning tool	No	No	Yes*	No	No	Yes	No	No	Yes
3.1.10 Model access control	Yes	No	No*	No	Yes	No	Yes	Yes	Yes
3.1.11 Deployment Method									
3.1.12 Deployment, deployment, view	Standards or Client/Server	Client/Server	Standards*	Standards	Standards or Client/Server	Client/Server	Hyperly	Standards	Standards or Client/Server
3.1.13 Concurrent user support	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes
3.1.14 Costs and Vendor Support									
3.1.15 License cost per user	\$14,000	\$12,000	N/A	\$1,000	\$1,225		\$0,000	\$0,000	\$12,000
3.1.16 Maintenance cost (annual)	\$2,000		N/A	\$1,000			\$1,400	\$2,500	10%N/A
3.1.17 Vendor training cost (not on file)	\$1,700		N/A	\$1,000			\$075	\$2,400	

	Weight	CORE 5.1	Oracle 5	MAI	Proteus 5.9	Rational SA 5.5.1	Hyperly 5.7	Teamcenter 2001	System Architect 16.3	TAO G2	
3.1.1 Supports custom models or views	3	100%	2	100%	2	0%	0	100%	2	100%	2
3.1.2 Supports customization via software APIs	3	100%	0	100%	0	0%	0	100%	0	100%	0
3.1.3 Import and export of data	3	100%	2	100%	2	100%	2	100%	2	100%	2
3.1.4 Use detailed level files, XML, etc.	3	100%	2	100%	2	100%	2	100%	2	100%	2
3.1.5 Use middleware layer (Web Services)	3	0%	0	0%	0	0%	0	100%	2	0%	0
3.1.6 Supports data interchange standards (AP233)	3	0	0	0	0	0	0	0	0	0	0
3.1.7 Compare different versions of models	3	0%	0	0%	0	100%	2	0%	0	0%	0
3.1.8 Support executable SE models	3	100%	2	0%	0	0%	0	100%	2	0%	0
3.1.9 Repository	3	100%	2	100%	2	100%	2	100%	2	100%	2
3.1.10 Version database (Proteus, COCC, vendor proprietary)	3	100%	2	100%	2	100%	2	100%	2	100%	2
3.1.11 Allow multiple users to update	3	100%	2	100%	2	100%	2	100%	2	100%	2
3.1.12 Model versioning tool	3	0%	0	0%	0	100%	2	0%	0	100%	2
3.1.13 Model access control	3	100%	2	0%	0	0%	0	100%	2	100%	2
3.1.14 Deployment Method	3	100%	2	100%	2	50%	1	100%	2	100%	2
3.1.15 Deployment, deployment, view	3	100%	2	100%	2	50%	1	100%	2	100%	2
3.1.16 Concurrent user support	3	100%	2	100%	2	0%	0	100%	2	0%	0
Totals	100	88	76	77	47	68	66	87	72	80	

# OPTIMAL SUPPORT FOR OPTIMAL PROCESSES

## Capability Maturity Model





## Capability Maturity Model Integration and tooling

Level	Focus	Process Areas	Result
5 Optimizing	<i>Continuous process improvement</i>	Organizational Innovation & Deployment Causal Analysis and Resolution	<b>Productivity &amp; Quality</b>  
4 Quantitatively Managed	<i>Quantitative management</i>	Organizational Process Performance Quantitative Project Management	
3 Defined	<i>Process standardization</i>	Requirements Development Technical Solution Product Integration Verification Validation Organizational Process Focus Organizational Process Definition Organizational Training Integrated Project Management Risk Management Decision Analysis and Resolution	
2 Managed	<i>Basic project management</i>	Requirements Management Project Planning Project Monitoring & Control Supplier Agreement Management Measurement and Analysis Process & Product Quality Assurance Configuration Management	
1 Initial	<i>Competent people and heroics</i>		

Seamless transition and integration

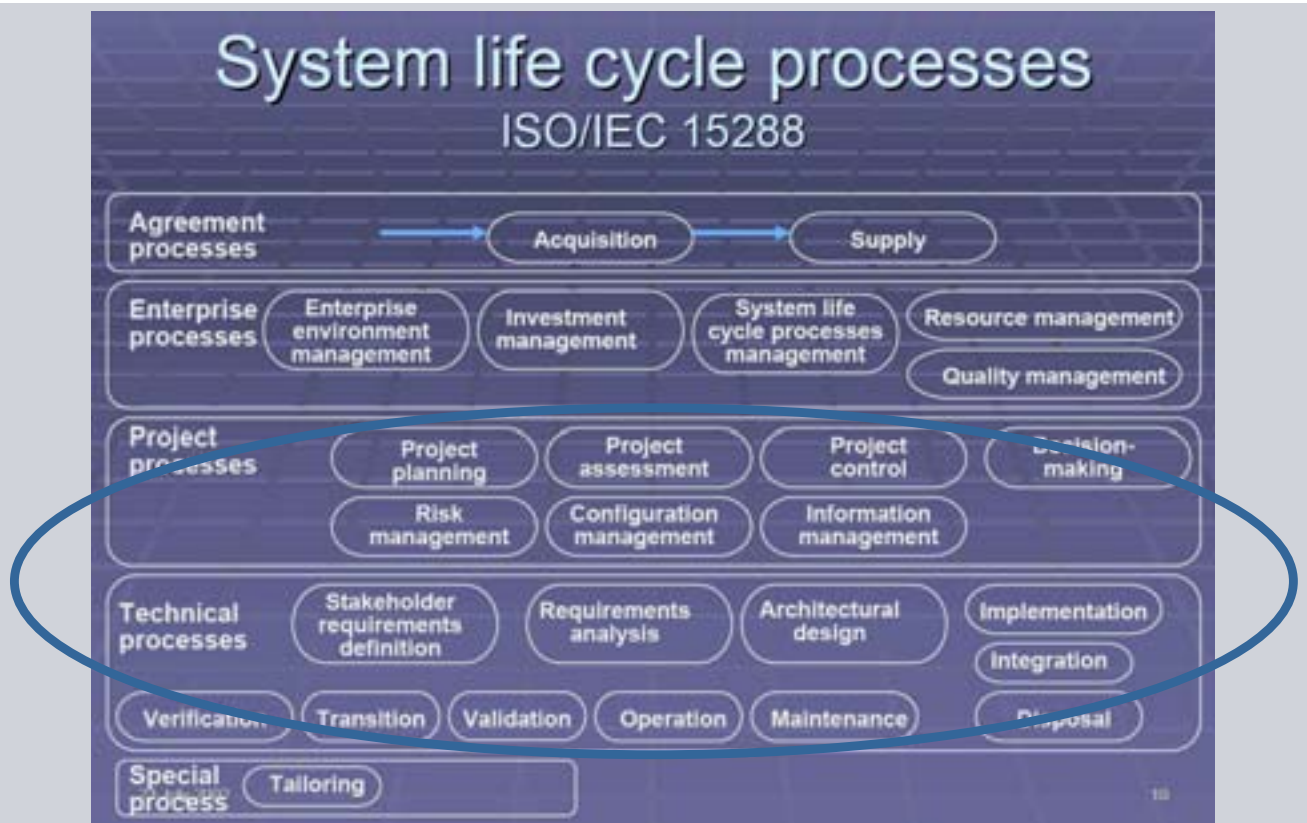
Teamcenter  
↕  
Diagrams  
↕  
Spreadsheets  
↕  
Documents

## CMMI, roadmaps, staged or continuous improvement and tooling

- Every organization changes: people, process and technology.
- Tooling supports people and process and should be part of any plan or roadmap
- A roadmap in itself can be supported by tooling to manage:
  - Requirements
  - Dependencies
  - Visualization
  - Process design
  - Planning



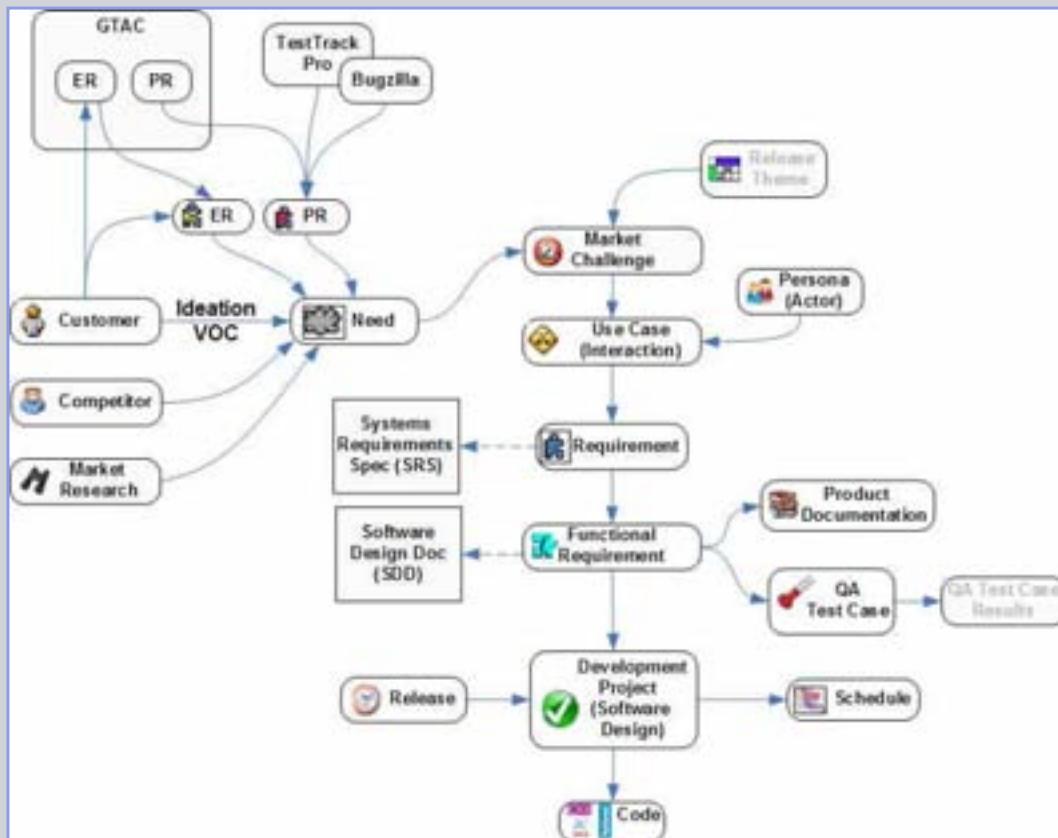
## ISO 15288 (System Life Cycle Processes) harmonizes with ISO 12207 (Software Life Cycle Processes)



## Why Teamcenter for Managing Software Requirements?

- ▶ Facilitates Voice of the Customer (VOC) capture
- ▶ Provides multi-user web access to validate and document requirements
- ▶ Quality documentation as by-product
- ▶ Ease of use.
- ▶ Includes integrations to MS Office, UML Modeling tools (EA), Software Management tools (ClearCase), CM (Change, Workflow) , Scheduling





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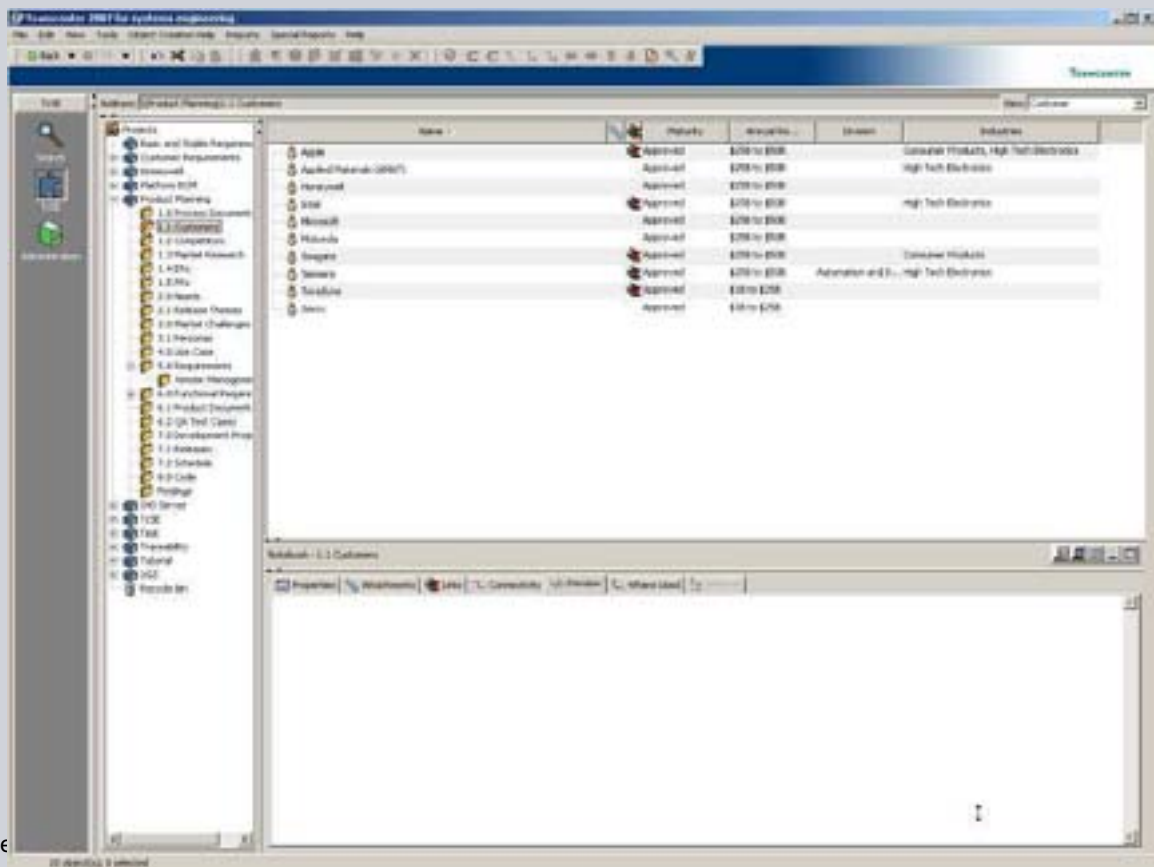
1 Software

- Which **Enhancement Requests** are related to my **Customer**?
- Which **Requirements** are related to my **Customer**?
- Which **Needs** are being met by this **Release**?
- Which **Requirements** support the Vendor Management **Market Challenge**?
- Which **Requirements** are validated by **QA Test Cases**?
- Which Approved **Use Cases** involve a **Persona**?
- Which **Use Cases** are impacted if my **Development Schedule** slips.
- Which **Requirements** come from **Customers** in **High Tech or Consumer Products** that are making more than **25B in Revenue**?
- If I change my **Supplier Access Restrictions Requirement**, what is impacted?
- What **Functional Requirement** changes are still open?
- When are my **Customer's** needs being met?
- How can I show my **Customers** that I captured their input?
- Which of my **Platforms** leverage Office 2009?
- Which web app servers, databases, OS are validated for this **Platform**?
- Which software **Release** fixes PR5729779?



## Teamcenter for Software Requirements Management Customers view

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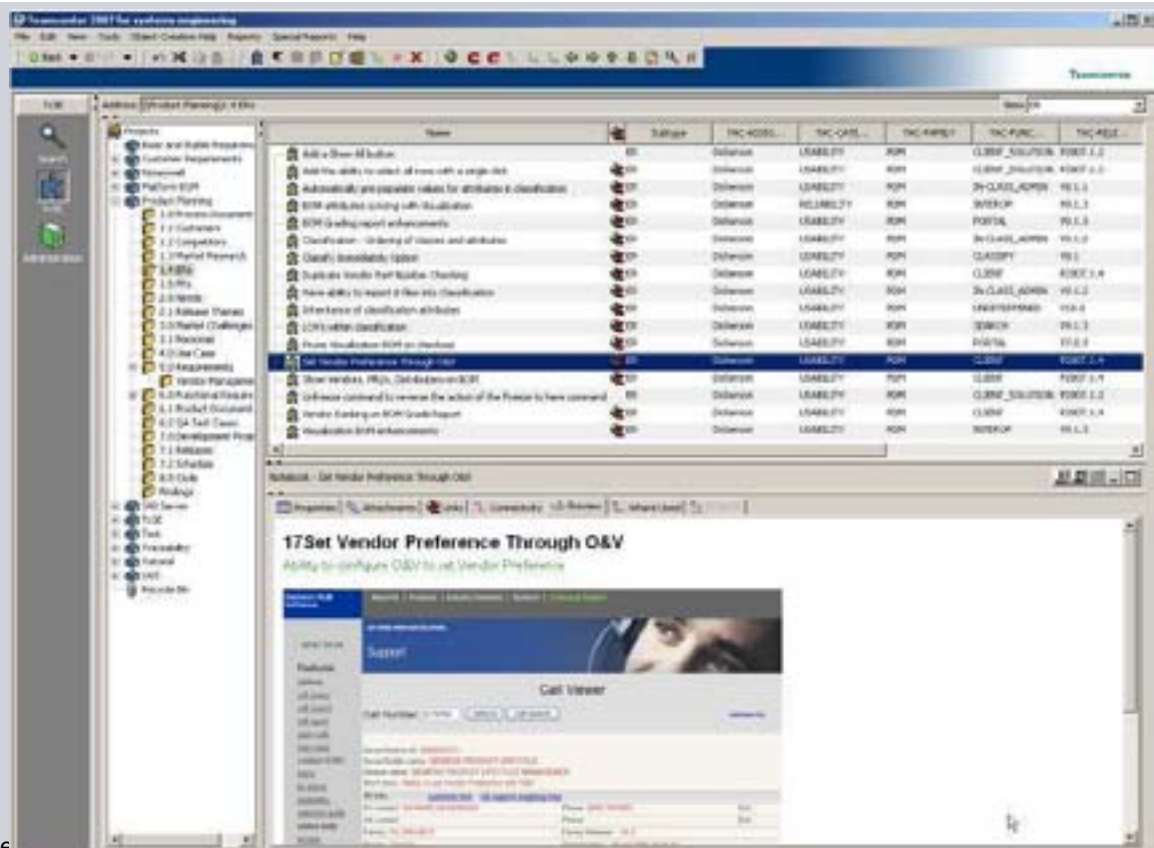


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## Teamcenter for Software Requirements Management Enhancement Requests

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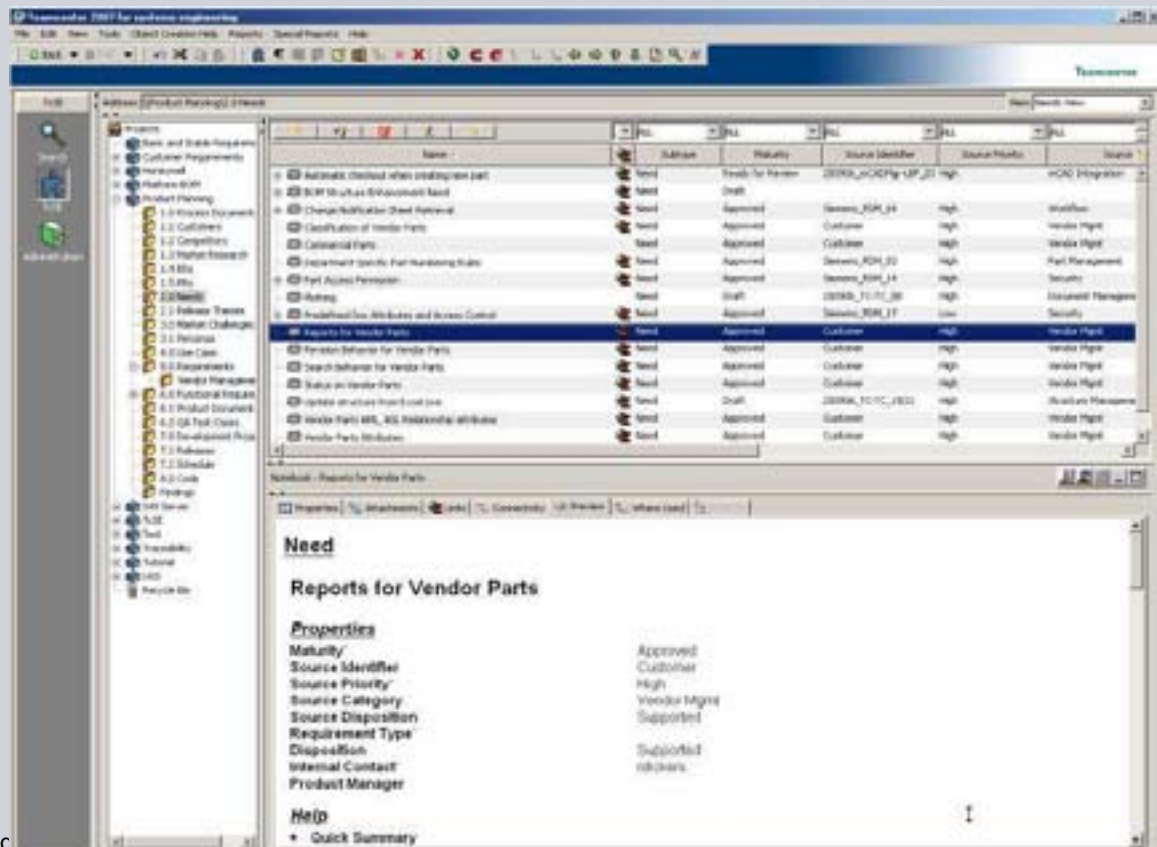
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# Teamcenter for Software Requirements Management Needs

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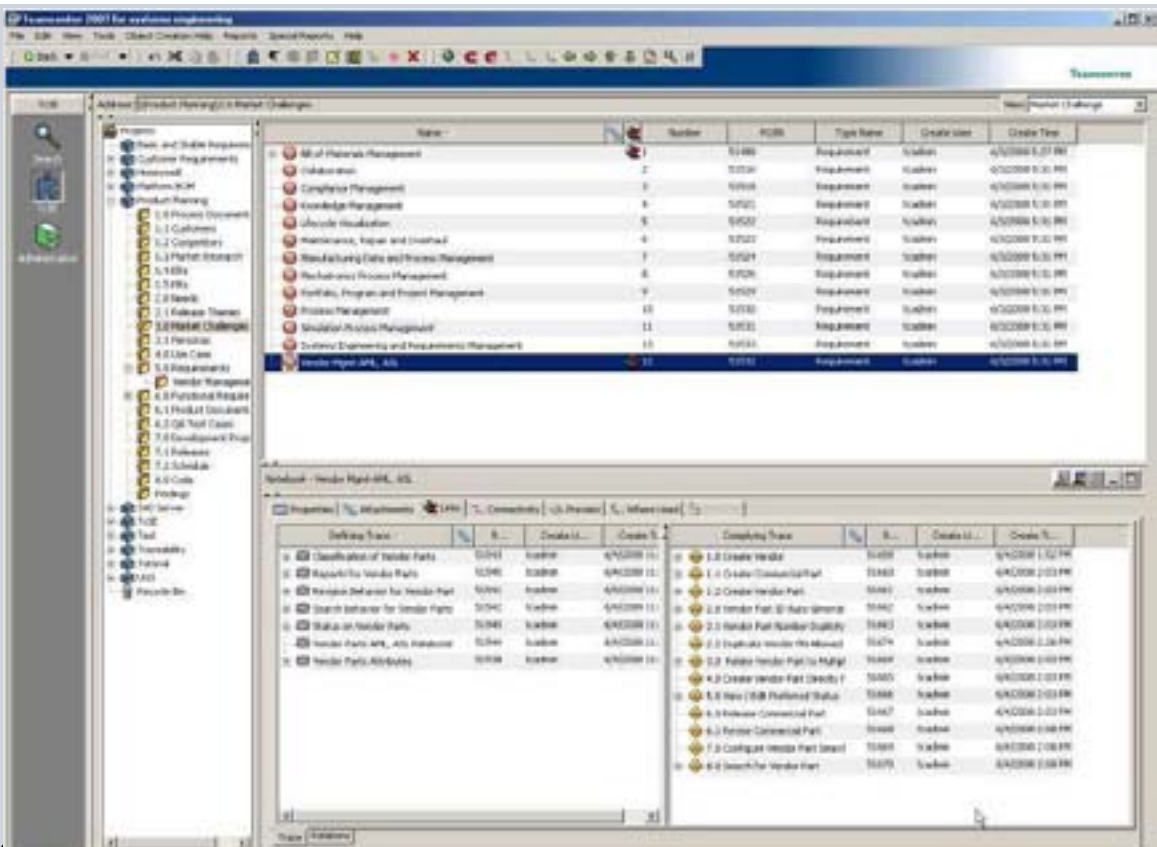


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# Teamcenter for Software Requirements Management Market challenges and traceability

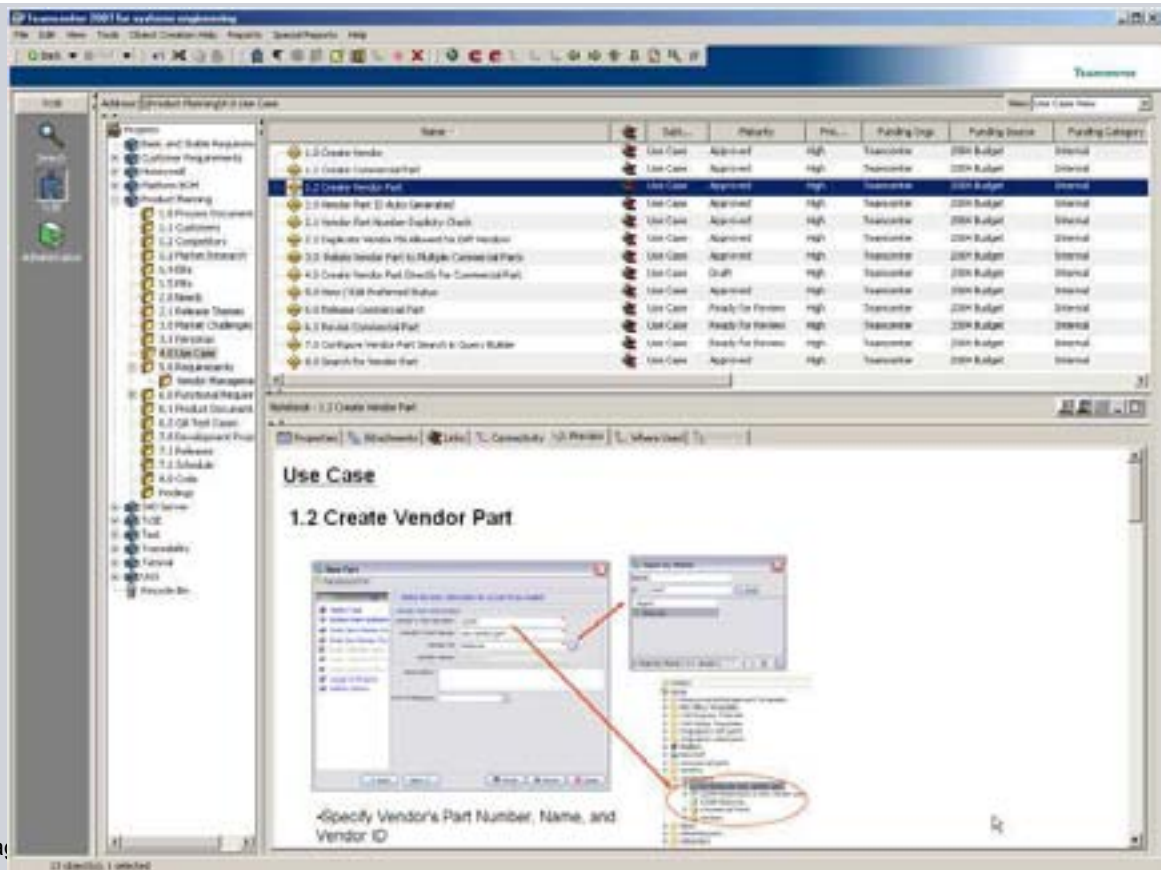
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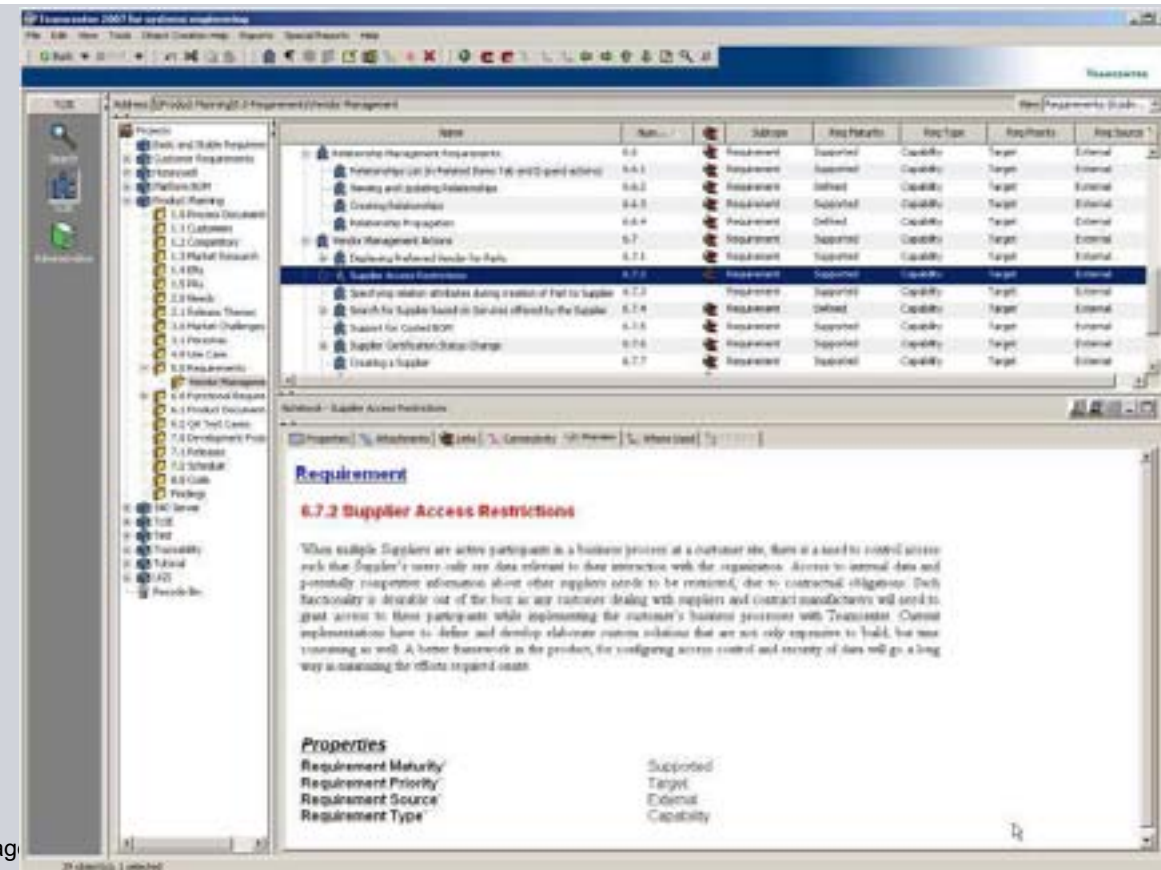
# Teamcenter for Software Requirements Management Use cases



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software

# Teamcenter for Software Requirements Management Requirements

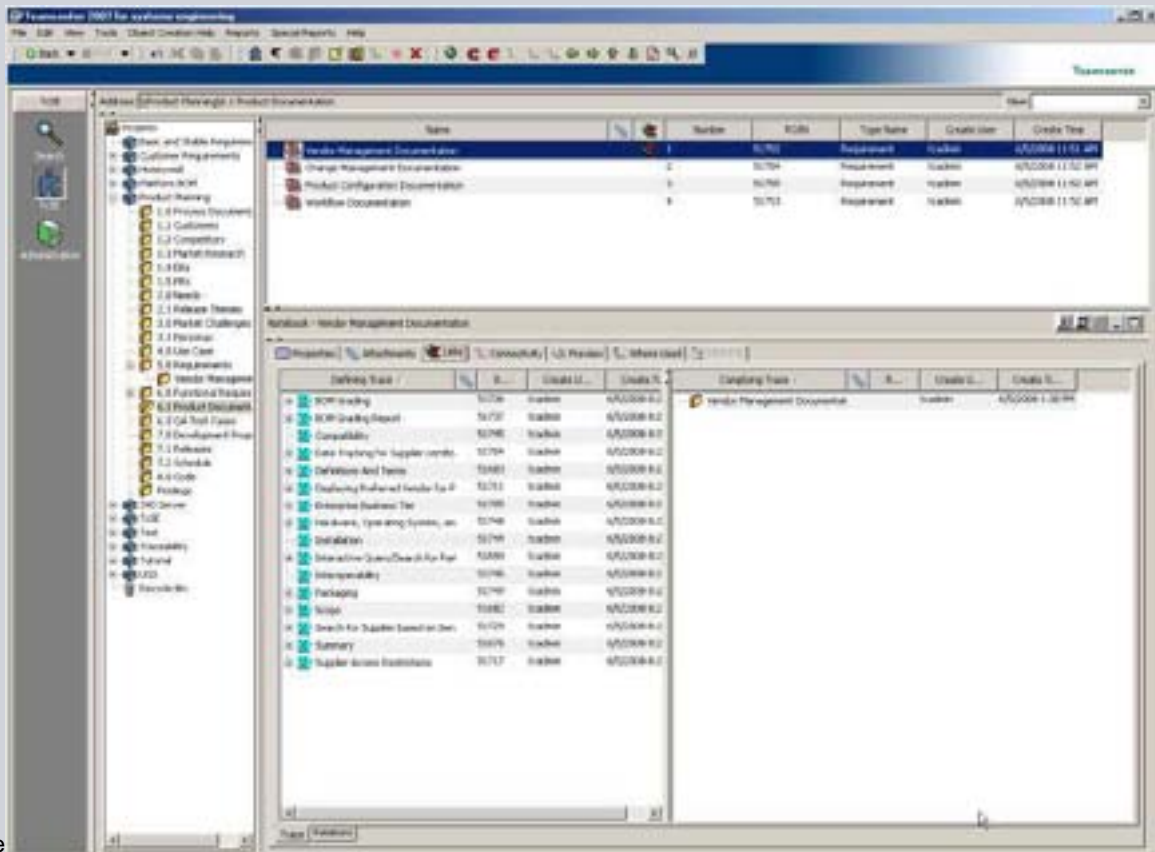


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# Teamcenter for Software Requirements Management

## Documentation derived from requirements

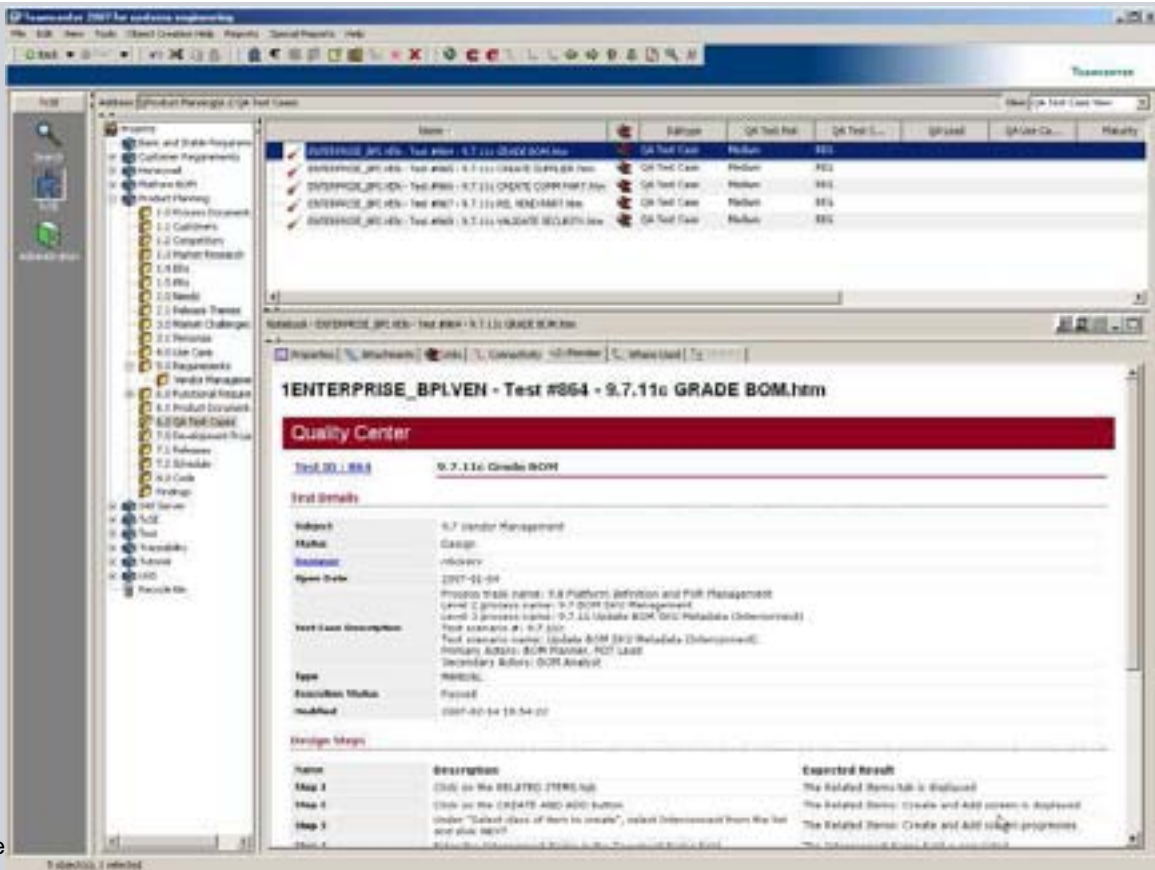


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# Teamcenter for Software Requirements Management

## QA Test cases



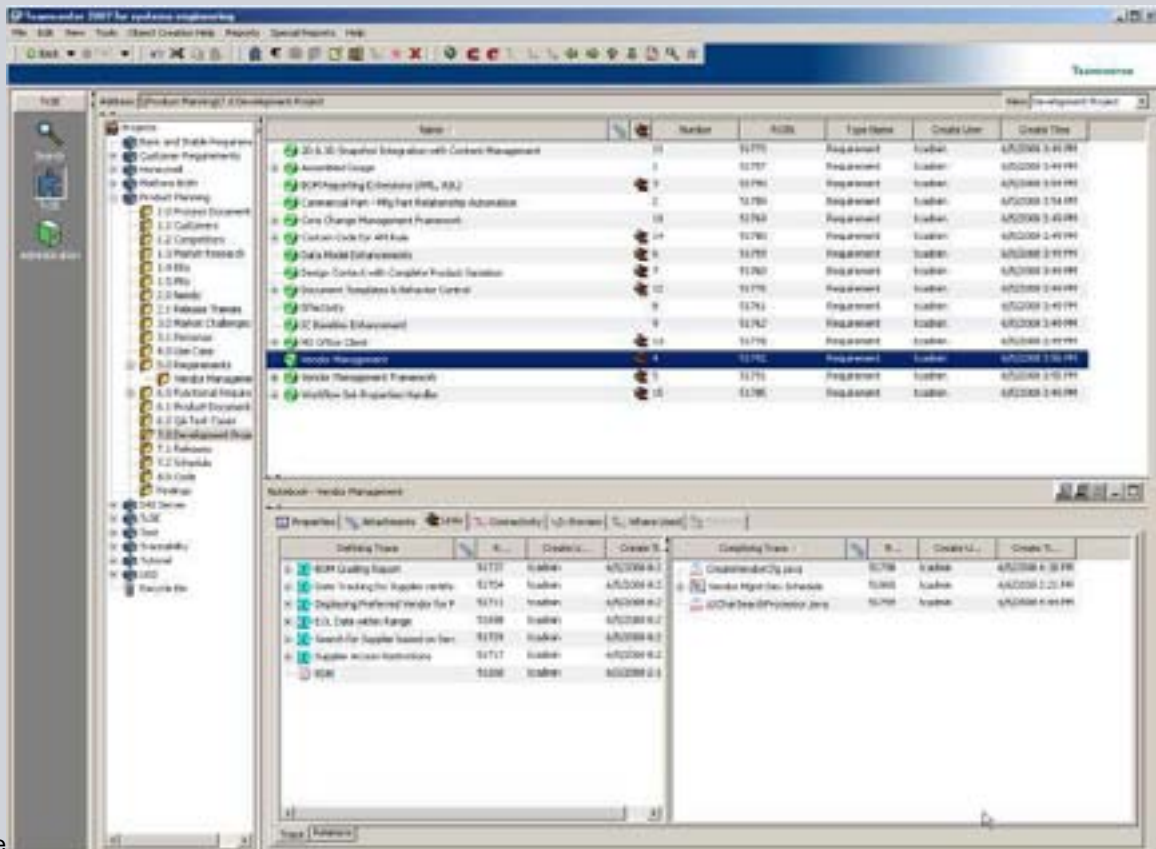
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# Teamcenter for Software Requirements Management Traceability to development projects and SW code

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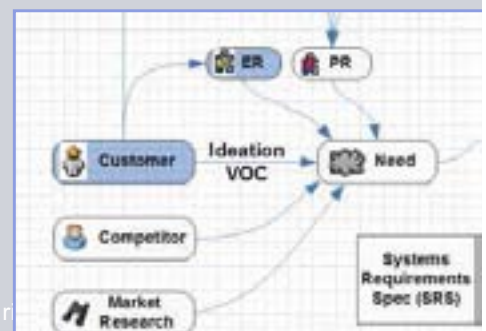
## Which Enhancement Requests are related to my Customer?

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Search Results (1) - 9 Items Found

Name	Sub...	TAC-AS...	TAC-CAT...	TAC-F...	TAC-FU...	TAC-REL...	TAC-S...	TAC-SER...	TAC
Siemens	Customer								
Prune Visualization BOM on checkout	ER	Dickerson	USABILITY	FCM	PORTAL	V7.0.3	1027274	DEVELOPMENT	It asser
BOM attributes syncing with Visualization	ER	Dickerson	RELIABILITY	FCM	INTEROP	V9.1.3	1073206	DEVELOPMENT	The abt
BOM Grading report enhancements	ER	Dickerson	USABILITY	FCM	PORTAL	V9.1.3	DEV	DEVELOPMENT	Portal v
Visualization BOM enhancements	ER	Dickerson	USABILITY	FCM	INTEROP	V9.1.3	DEV	DEVELOPMENT	How do
Vendor Ranking on BOM Grade Report	ER	Dickerson	USABILITY	FCM	CLIENT	P2007.1.4	DEV	DEVELOPMENT	Ability t
Show Vendors, Mfg's, Distributors on BOM	ER	Dickerson	USABILITY	FCM	CLIENT	P2007.1.4	DEV	DEVELOPMENT	Configu
Duplicate Vendor Part Number Checking	ER	Dickerson	USABILITY	FCM	CLIENT	P2007.1.4	DEV	DEVELOPMENT	Display
Set Vendor Preference Through O&M	ER	Dickerson	USABILITY	FCM	CLIENT	P2007.1.4	DEV	DEVELOPMENT	Ability t

9 object(s); 0 selected





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The diagram illustrates the process flow from Ideation VOC to Market Challenge, Use Case (Interaction), Requirement, and Functional Requirement. Key components and artifacts include:

- Ideation VOC** (Central Hub)
- Customer** (Input)
- Competitor** (Input)
- Market Research** (Input)
- ER** (Entity Relationship)
- PR** (Product Requirement)
- Need** (Output of Ideation VOC)
- Market Challenge** (Output of Need)
- Use Case (Interaction)** (Output of Market Challenge)
- Requirement** (Output of Use Case)
- Functional Requirement** (Output of Requirement)
- Systems Requirements Spec (SRS)** (Output of Requirement)
- Software Design Doc (SDD)** (Output of Functional Requirement)

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```

graph TD
    Customer[Customer] --> VOC[Idea/Innovation VOC]
    Competitor[Competitor] --> VOC
    MR[Market Research] --> VOC
    VOC --> Need[Need]
    Need --> MC[Market Challenge]
    MC --> UC[Use Case Interaction]
    UC --> Req[Requirement]
    Req --> FR[Functional Requirement]
    FR --> DP[Development Project Software Design]
    DP --> Release[Release]
    Release --> MC
    Release --> Req
    FR --> Req
  
```

# The Market Challenge, Vendor Management, derives which Requirements?

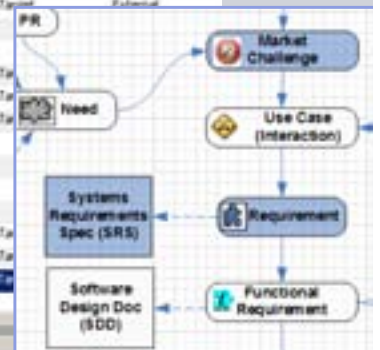
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Teamcenter View

Search Results (1) - 30 Results Found

Name	Number	Subtype	Req Maturity	Req Type	Req Priority	Req Source
Vendor Mgmt AML, ASL	12	Market Challenge				
1.0 Create Vendor	1	User Case				
Create, Update, GetInfo Requirements	6.3	Requirement	Defined	Capability	Target	External
Creating a Supplier	6.7.7	Requirement	Supported	Capability	Target	External
1.1 Create Commercial Part	2	User Case				
Create, Update, GetInfo Requirements	6.3	Requirement	Defined	Capability	Target	External
1.2 Create Vendor Part	3	User Case				
Create, Update, GetInfo Requirements	6.3	Requirement	Defined	Capability	Target	External
2.0 Vendor Part 3D Auto Generated	4	User Case				
Basic Actions (Copy, Delete, etc.) Requirements	6.3	Requirement	Supported	Capability	Target	External
2.1 Vendor Part Number Duplcity Check	5	User Case				
Create, Update, GetInfo Requirements	6.3	Requirement	Defined	Capability	Target	External
Basic Actions (Copy, Delete, etc.) Requirements	6.3	Requirement	Supported	Capability	Target	External
2.2 Duplicate Vendor PN Allowed for Diff Vendors	17	User Case				
3.0 Relate Vendor Part to Multiple Commercial Parts	6	User Case				
Creating Relationships	6.6.3	Requirement	Supported	Capability	Target	External
Relationship Propagation	6.6.4	Requirement	Defined	Capability	Target	External
Relationships List (in Related Items Tab and Expand actions)	6.6.1	Requirement	Supported	Capability	Target	External
4.0 Create Vendor Part Directly for Commercial Part	7	User Case				
5.0 View / Edit Preferred Status	8	User Case				
Viewing and Updating Relationships	6.6.2	Requirement	Defined	Capability	Target	External
Updating a Supplier	6.7.8	Requirement	Verified	Capability	Target	External
Supplier Certification Status Change	6.7.6	Requirement	Supported	Capability	Target	External
6.0 Release Commercial Part	9	User Case				
6.2 Revis Commercial Part	10	User Case				
7.0 Configure Vendor Part Search in Query Builder	11	User Case				
8.0 Search for Vendor Part	12	User Case				
Search for Supplier based on Services offered by the Supplier	6.7.9	Requirement	Defined	Capability	Target	External
Querying for a Supplier	6.7.9	Requirement	Verified	Capability	Target	External
Search and Query Requirements	6.4	Requirement	Supported	Capability	Target	External

30 object(s): 1 selected



# The Market Challenge, Vendor Management, derives which Requirements?

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Teamcenter View

Teamcenter 2007 for systems engineering

Name	Subtype	Req Maturity	Req Type	Req Priority
Assumptions	5.1	Requirement	Supported	Capability
INTERPRETATION	5.2	Requirement	Supported	Capability
ORGANIZATION	5.3	Requirement	Supported	Capability
Requirements and Design Details	6	Requirement	Supported	Capability
List of Attributes on Vendor Management classes	6.1	Requirement	Supported	Capability
Valid Values for "Value set" attributes in class	6.2	Requirement	Supported	Capability
Create, Update, GetInfo Requirements	6.3	Requirement	Defined	Capability
Search and Query Requirements	6.4	Requirement	Supported	Capability
Basic Actions (Copy, Delete, etc.) Requirements	6.5	Requirement	Supported	Capability
Relationship Management Requirements	6.6	Requirement	Supported	Capability
Relationships List (in Related Items Tab and Expand)	6.6.1	Requirement	Supported	Capability
Viewing and Updating Relationships	6.6.2	Requirement	Defined	Capability
Creating Relationships	6.6.3	Requirement	Supported	Capability
Relationship Propagation	6.6.4	Requirement	Defined	Capability

Notepad - Search and Query Requirements

Defining Trace	Subtype	Maturity	Completing Trace	Subtype
Search for Vendor Part	User Case	Approved	Search for Supplier based on Ser Functional Requirement	Functional Requirement
			Enterprise Tier	Functional Requirement
			Data Elements	Functional Requirement
			Package Descriptions	Functional Requirement
			Implementation	Functional Requirement
			Web Tier	Functional Requirement
			System Preferences	Functional Requirement
			SQL Data within Range	Functional Requirement
			Interactive Query/Search for Functional Requirement	Functional Requirement

60 object(s): 1 selected

are



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The image displays two side-by-side screenshots of Microsoft Word documents, likely representing different versions or sections of a requirements document.

**Left Document:**

- Title:** Requirement
- Section:** 1 Scope
- Text:** This specification describes the features work planned for the Vendor Management solution for T4.0. Some release. The requirements for this release have been derived from use cases and requirements from the RTE - next core services team.
- Primary audience:**
  - Developers of Vendor Management features
  - Developers of virtual solutions that depend upon Vendor Management capability
  - Evaluators of this feature
  - Technical Communications staff documenting Foundation
  - Customers carrying out customization/configuration of Foundation
  - Development Support and Consulting
  - User/Dev Engineering
  - Pre-Sales staff
  - Product management

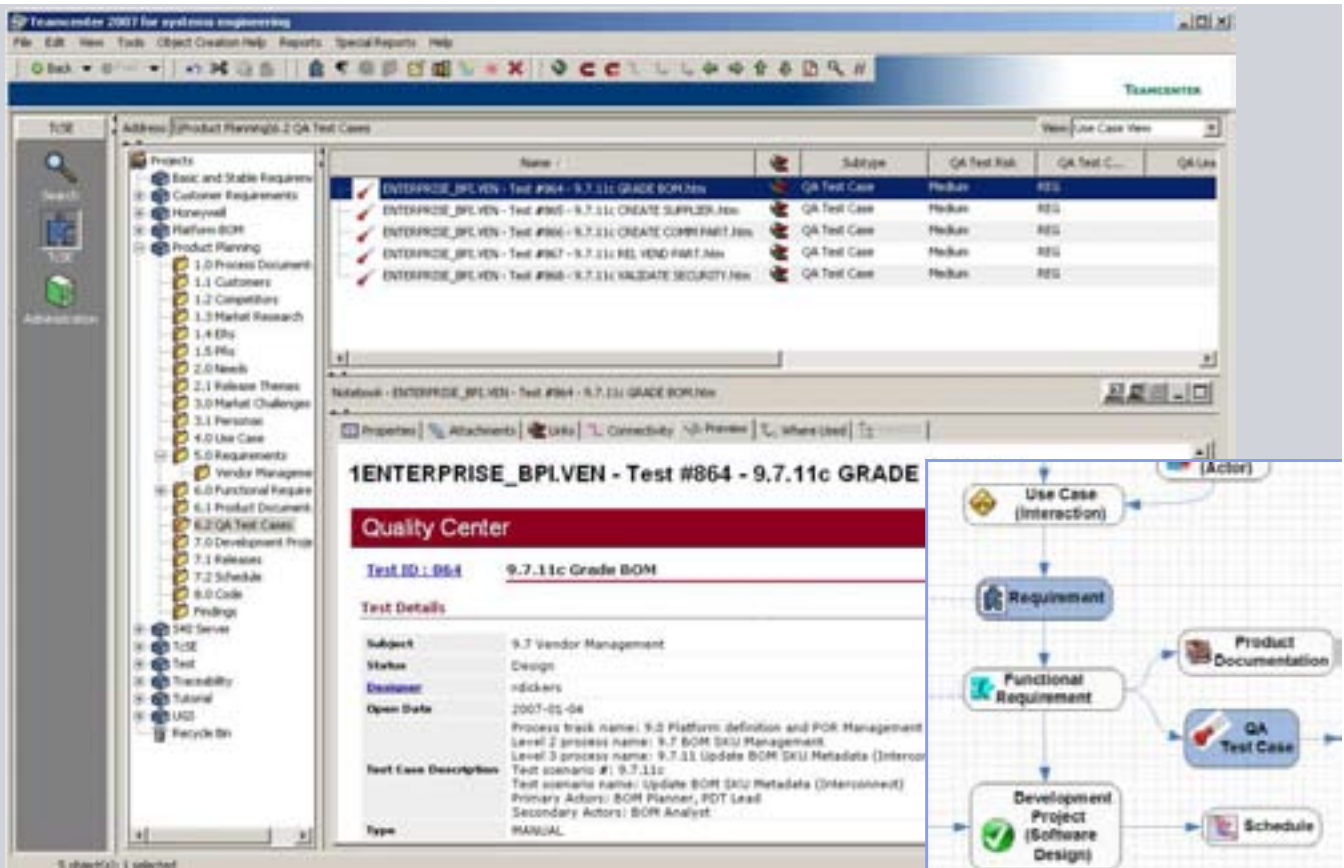
**Right Document:**

- Title:** Requirement
- Section:** 6.4 Search and Query Requirements
- Text:** This section defines the search and query requirements. (Note: Query = Standard Query, Search = Indexed Query)
- Text:** CCM-04-100 (Available) Vendor Management shall allow the user to perform a search and query of the data shown in Table 20.
- Text:** CCM-04-110 (Available) Vendor Management shall facilitate the following attributes that can be searched. (Table 14)
- Text:** Table 20 List of Query Attributes and List of Columns in Query Results
- Table:**

No	Item Type	Query Attributes	Query Result Columns
1	Vendor Master	-	-
2	Supplier Master	-	-
3	Customer Master	-	-
4	Manufacturer Master	-	-
5	Vendor	-	-
6	Supplier	SupplierID Supplier Name Address ContactPerson VendorStatus SupplierAddress SupplierPhone SupplierEmail Website ContactEmail SupplierID(Tab) ContactEmail	SupplierID SupplierName VendorStatus ContactPerson SupplierAddress SupplierPhone Website ContactEmail SupplierID(Tab) Approved Supplier #

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## Which Requirements are validated by QA Test Cases?

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Teamcenter View

Search Results (1) - 37 Items Found

Name	Subtype	Req Maturity	Req Type	Req Priority
ENTERPRISE_BPLVEN - Test #864 - 9.7.11c GRADE BOM.htm	QA Test Case	Defined		
BOM Grading	Functional Requirement	Verified	Capability	Target
BOM Grading	Requirement	Supported	Capability	Target
BOM Grading Report	Functional Requirement	Verified	Capability	Target
BOM Grading	Requirement	Supported	Capability	Target
ENTERPRISE_BPLVEN - Test #865 - 9.7.11c CREATE SUPPLIER.htm	QA Test Case	Defined		
User Interactivity	Functional Requirement	Drafted		
Basic Actions (Copy, Delete, etc.) Requirements	Requirement	Supported	Capability	Target
Creating Relationships	Requirement	Supported	Capability	Target
Support for Costed BOM	Requirement	Supported	Capability	Target
Creating a Supplier	Requirement	Supported	Capability	Target
Updating a Supplier	Requirement	Verified		
ENTERPRISE_BPLVEN - Test #866 - 9.7.11c CREATE COMM PART.htm	QA Test Case	Defined		
User Interactivity	Functional Requirement	Drafted		
ENTERPRISE_BPLVEN - Test #867 - 9.7.11c REL VEND PART.htm	QA Test Case	Defined		
User Interactivity	Functional Requirement	Drafted		
ENTERPRISE_BPLVEN - Test #868 - 9.7.11c VALIDATE SECURITY.htm	QA Test Case	Defined		
Supplier Access Restrictions	Functional Requirement	Verified		
Supplier Access Restrictions	Requirement	Supported		
Date Tracking for Supplier certification change	Functional Requirement	Verified		
Performance/Scalability Requirements	Requirement	Supported		
Create, Update, GetInfo Requirements	Requirement	Defined		
Viewing and Updating Relationships	Requirement	Defined		

24 object(s): 1 selected

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## What Requirements are validated by QA Test Cases?

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Automatically Generated Excel View

Microsoft Excel - 1212791478580.uxtdml [Read-Only]

	A	B	C	D	E	F	G	H
	Item	Name	Subtype	Req Maturity	Req Type	Req Priority	Req Status	Req Type
1	✓	ENTERPRISE_BPLVEN - Test #864 - 9.7.11c GRADE BOM.htm	2 QA Test Case	Defined			Exp	
2	✓	BOM Grading	8 Requirement	Supported	Capability	Target	Exp	
3	✓	BOM Grading	8 Requirement	Supported	Capability	Target	Exp	
4	✓	ENTERPRISE_BPLVEN - Test #865 - 9.7.11c CREATE SUPPLIER.htm	1 QA Test Case	Defined			Exp	
5	✓	Basic Actions (Copy, Delete, etc.) Requirements	3 Requirement	Supported	Capability	Target	Exp	
6	✓	Creating Relationships	3 Requirement	Supported	Capability	Target	Exp	
7	✓	Support for Costed BOM	1 Requirement	Supported	Capability	Target	Exp	
8	✓	Creating a Supplier	2 Requirement	Supported	Capability	Target	Exp	
9	✓	Updating a Supplier	2 Requirement	Verified	Capability	Target	Exp	
10	✓	ENTERPRISE_BPLVEN - Test #866 - 9.7.11c CREATE COMM PART.htm	1 QA Test Case	Defined			Exp	
11	✓	Basic Actions (Copy, Delete, etc.) Requirements	3 Requirement	Supported				
12	✓	Creating Relationships	3 Requirement	Supported				
13	✓	Support for Costed BOM	1 Requirement	Supported				
14	✓	Creating a Supplier	2 Requirement	Supported				
15	✓	Updating a Supplier	2 Requirement	Verified				
16	✓	ENTERPRISE_BPLVEN - Test #867 - 9.7.11c REL VEND PART.htm	1 QA Test Case	Defined				
17	✓	Basic Actions (Copy, Delete, etc.) Requirements	3 Requirement	Supported				
18	✓	Creating Relationships	3 Requirement	Supported				
19	✓	Support for Costed BOM	1 Requirement	Supported				
20	✓	Creating a Supplier	2 Requirement	Supported				
21	✓	Updating a Supplier	2 Requirement	Verified				
22	✓	ENTERPRISE_BPLVEN - Test #868 - 9.7.11c VALIDATE SECURITY.htm	2 QA Test Case	Defined				
23	✓	Supplier Access Restrictions	4 Requirement	Supported				
24	✓	Performance/Scalability Requirements	9 Requirement	Supported				
25	✓	Create, Update, GetInfo Requirements	5 Requirement	Defined				
26	✓	Viewing and Updating Relationships	3 Requirement	Defined				
27	✓	Supplier Certification Status Change	2 Requirement	Supported				

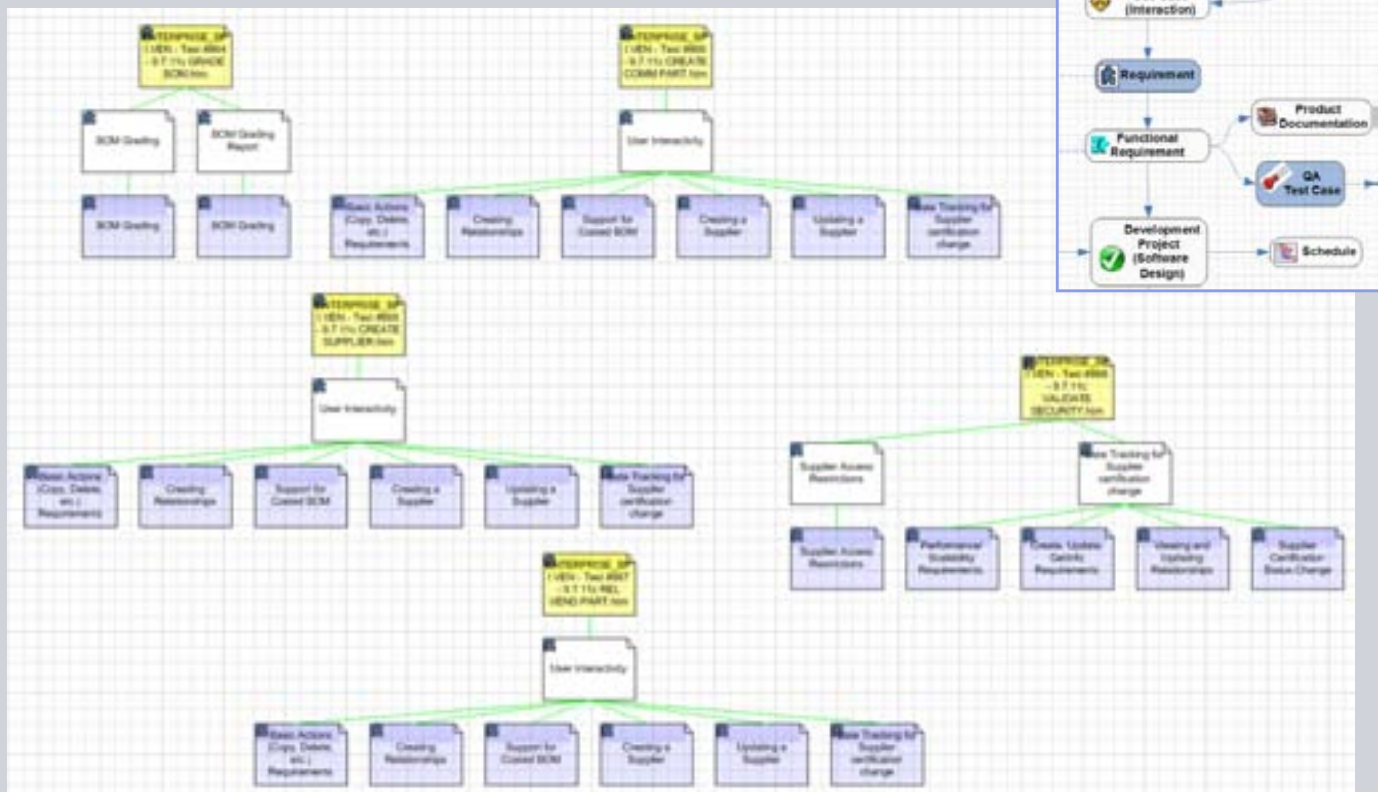
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## What Requirements are validated by QA Test Cases?

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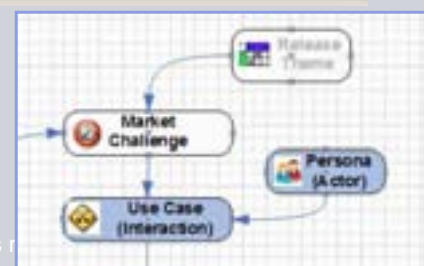
## Which Approved Use Cases involve a Persona

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Search Results (1) - 16 Items Found

Name	Subt...	Mat...	...	Fundn...	Funding...	Fund...	Analys...
Procurement	Persona	Approved					
1.0 Create Vendor	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev
3.0 Relate Vendor Part to Multiple Commercial Parts	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev
Product Engineer	Persona	Approved					
1.1 Create Commercial Part	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev
1.2 Create Vendor Part	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev
User	Persona	Approved					
8.0 Search for Vendor Part	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev
1.0 Create Vendor	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev
1.1 Create Commercial Part	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev
1.2 Create Vendor Part	Use Case	Approved	High	Teamcenter	2004 Budget	Internal	Dev

12 object(s); 1 selected



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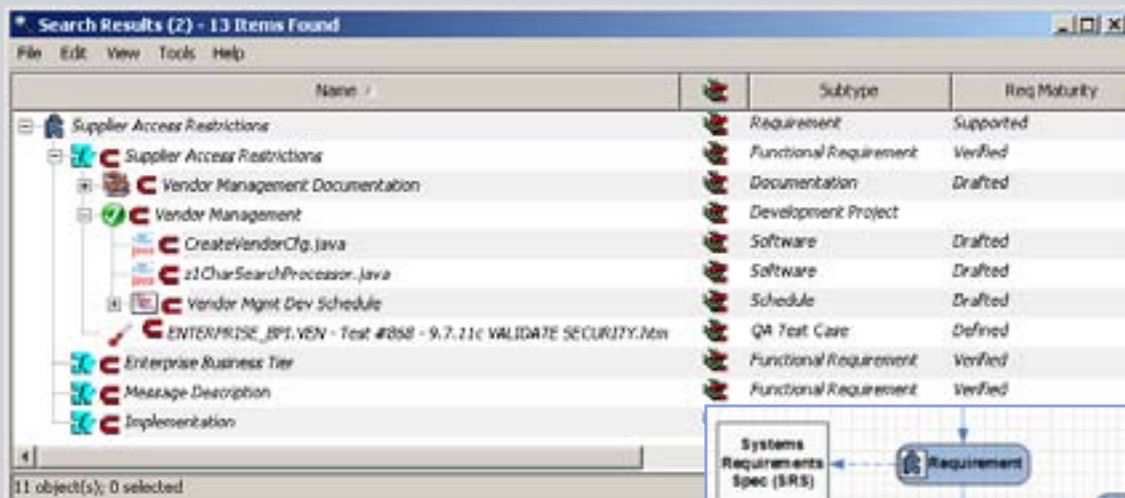


**SIEMENS**



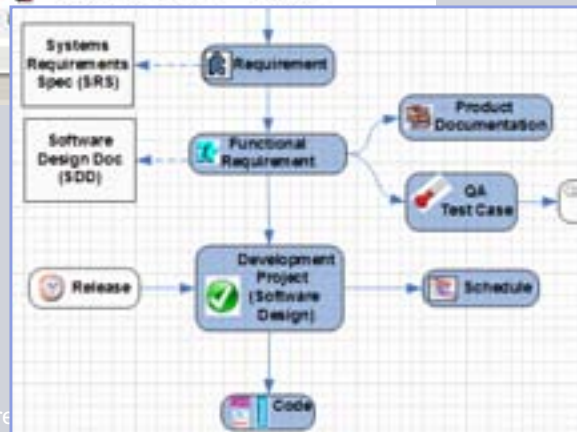
## If I change my *Supplier Access Restrictions Requirement*, what is impacted?

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Name	Subtype	Req Mobility
Supplier Access Restrictions	Requirement	Supported
Supplier Access Restrictions	Functional Requirement	Verified
Vendor Management Documentation	Documentation	Drafted
Vendor Management	Development Project	
CreateVendorCfg.java	Software	Drafted
a1CharSearchProcessor.java	Software	Drafted
Vendor Mgmt Dev Schedule	Schedule	Drafted
ENTERPRISE_BPS.VEN - Test #858 - 9.7.11c VALIDATE SECURITY.Mn	QA Test Case	Defined
Enterprise Business Tier	Functional Requirement	Verified
Message Description	Functional Requirement	Verified
Implementation		

11 object(s); 0 selected



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## Teamcenter Systems Engineering Generic Capabilities

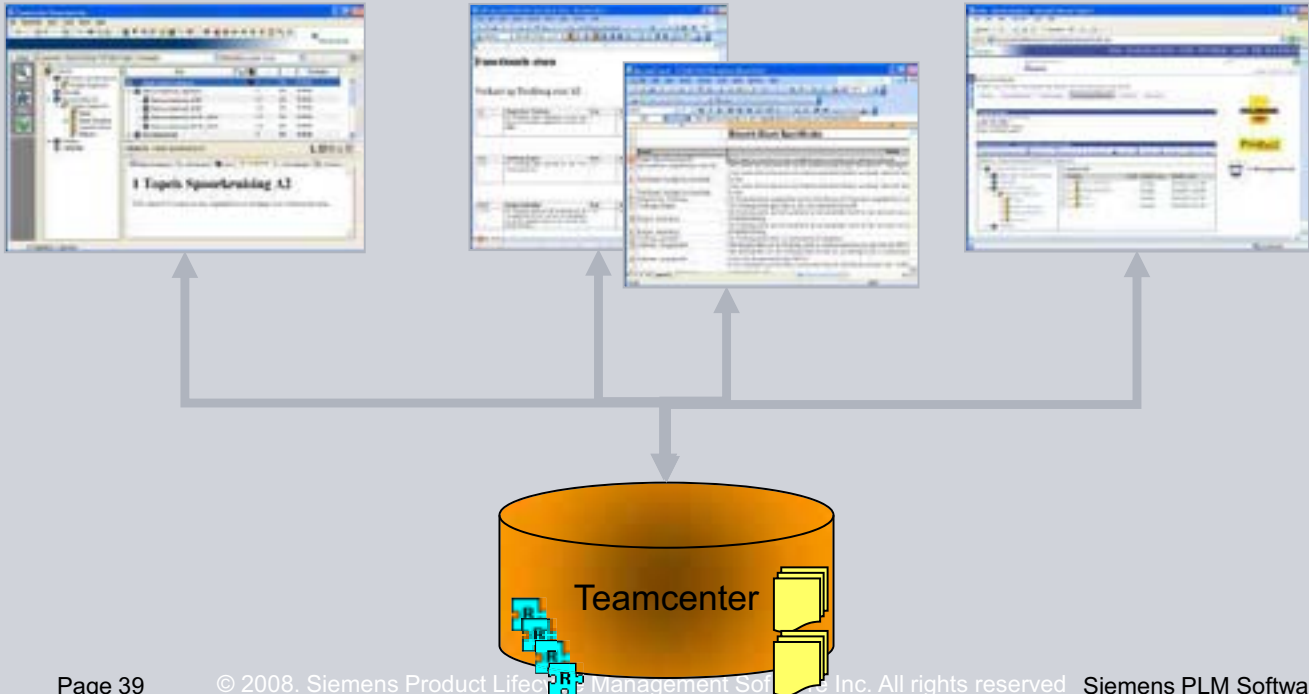


## Optimized views for different roles and tasks

Systems Engineer

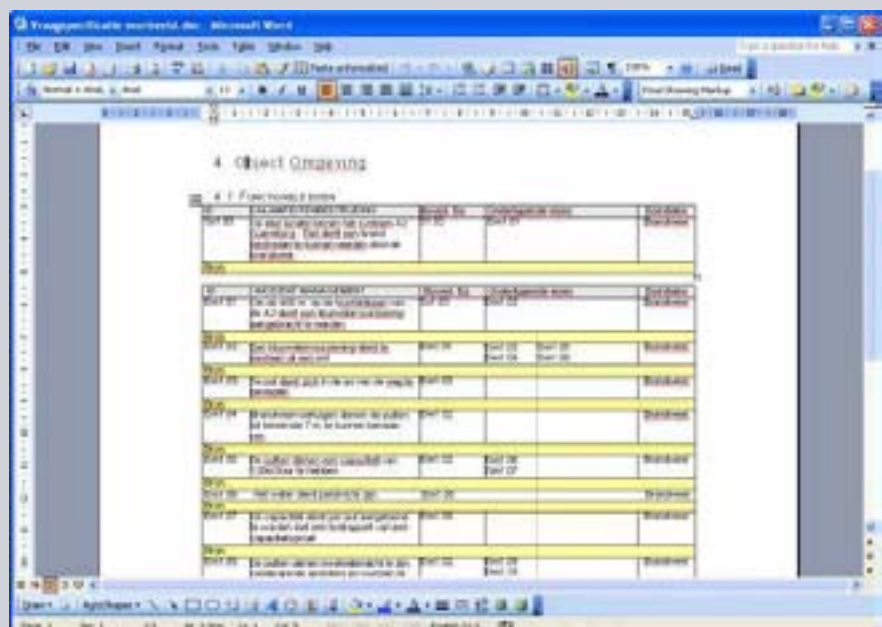
Engineer

Manager



## Powerfull import capabilities from Excel and Word

With a macro you can derive requirements with properties from a Word document with tables. In the next step the referenced items will be linked.





## Create relations wizard: Reference integrity to imported and external information



Used to create relations for imported requirements, objects etc.

Use cases:

- Customer requirements and specifications (Vraagspecificatie)
- Relate to imported WBS

Checks for consistency and data quality and iterations

## TcSE's "live" Excel interface...

Requirement properties displayed in columns (can be rearranged, sorted, etc. )

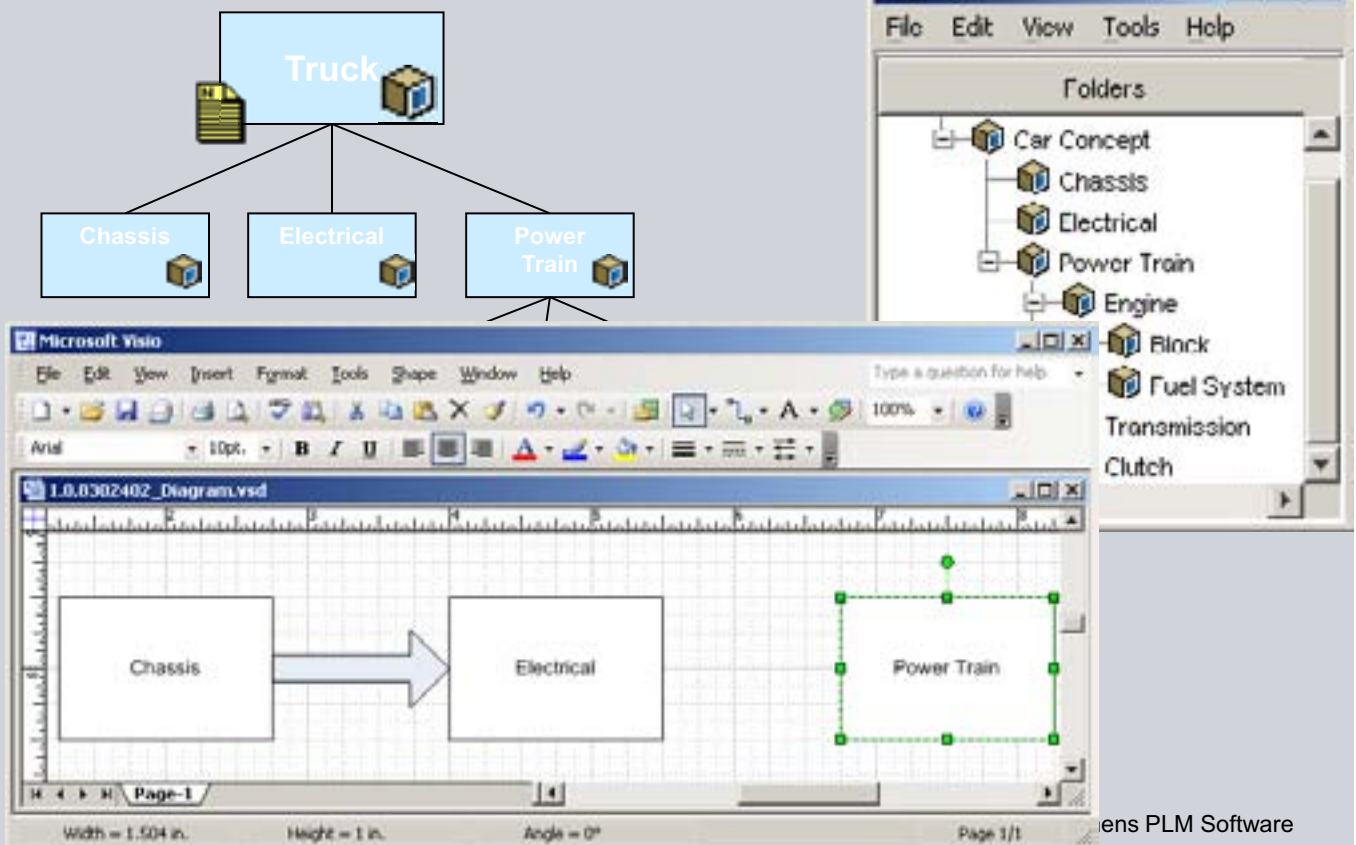
Edited inline

Edited in Excel

Requirement properties

...can be edited inline or directly Excel.

## System design Architecture and other views with Visio Live



ens PLM Software

## TcSE's Report Generation

SQL-like query engine is included to query the database objects & relationships

Can output in a variety of formats including Word, Excel, Visio, etc. Reports can be stored, recalled, & referenced

Simple to advanced search matching on text, properties, relationships, or combinations

The screenshot shows the 'Teamcenter systems engineering' search results window. It displays a list of search results with columns for Name, R, Full Name, Create U, and Create D. The results include items like 'The constraints (hardware, 0000)', 'Works under full name', 'The constraints (hardware, 0001)', and 'Conflict Performance (hardware)'. A speech bubble points to the search results table with the text: '...output to report windows, Word documents, Excel spreadsheets...'. Another speech bubble points to the search results table with the text: 'These are "live" objects, meaning they can be edited right here.'

## TcSE's Versions & Variants...

Requirements & Building Blocks can be:

- Frozen
- Versioned
- Baselined
- Variant (branched version)

Set effectivity to display

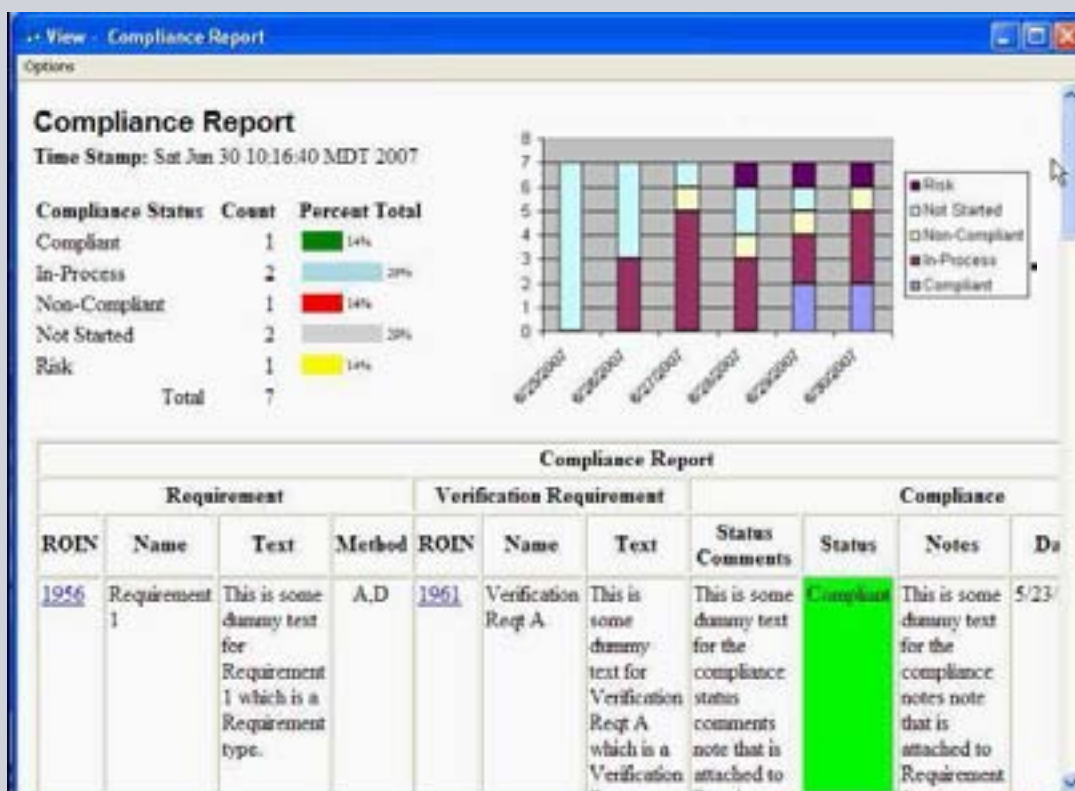
Display **effectivity** by **date** or **baseline**

Change logging and Routing/Approval engine is included for **Audit trails**

Configurable Routing & Approval engine

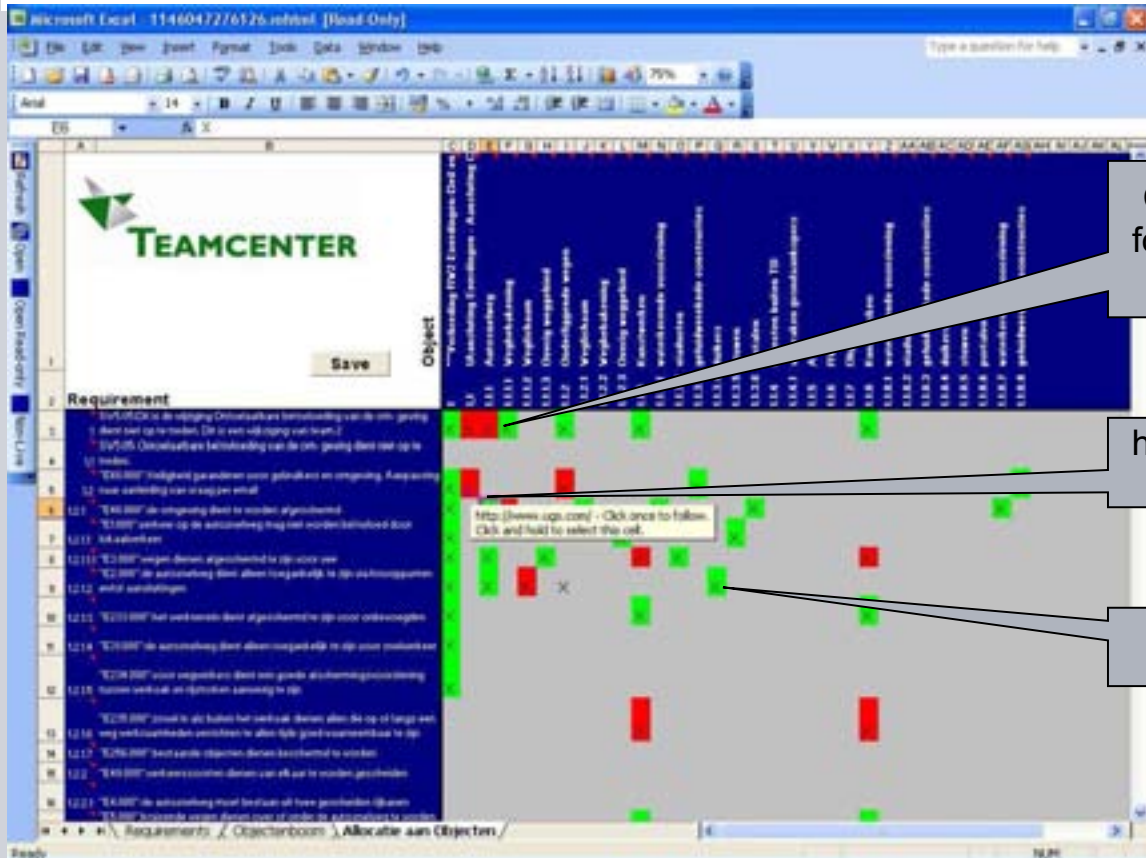


## Metrics and dashboards





## Verification status dashboard with link to verification documents launched from URL



## Easy setup of document templates Word, Excel and Visio

Template1126531165242\_1195827829178unhtml - Microsoft Word

{%Number}	{%Name}	Bron	Onderliggende eisen	Distributor
{%Number}	{%Text}	{%Activator%Bron}	{%Activator%Onderliggende}	{%Distributor}

	A	B	C	D
1	<b>Verificatie rapport</b>			
2	<b>Te verifiëren item</b>			
3	<start>	Status	Verificatie	Geverifieerd voor
4	{%Name}	{%Verification status}	{%Name}	{%Name}



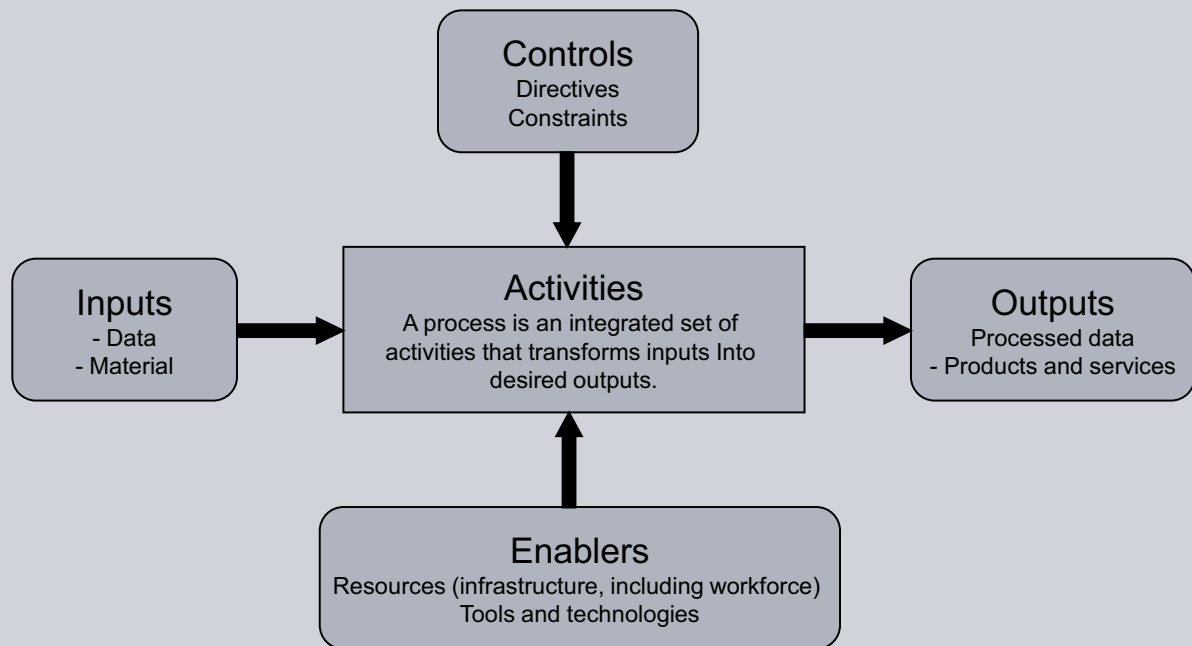
heijmans

TEAMCENTER

ROB	Name	Text	Score	Related name	Text
<start>	{%Before the this tag every thing will be considered as Header information/Constant non ToR information%}				
{%ROB%}	{%Name}	{%Text}	{%Score%}	{%Name}	{%Text%}

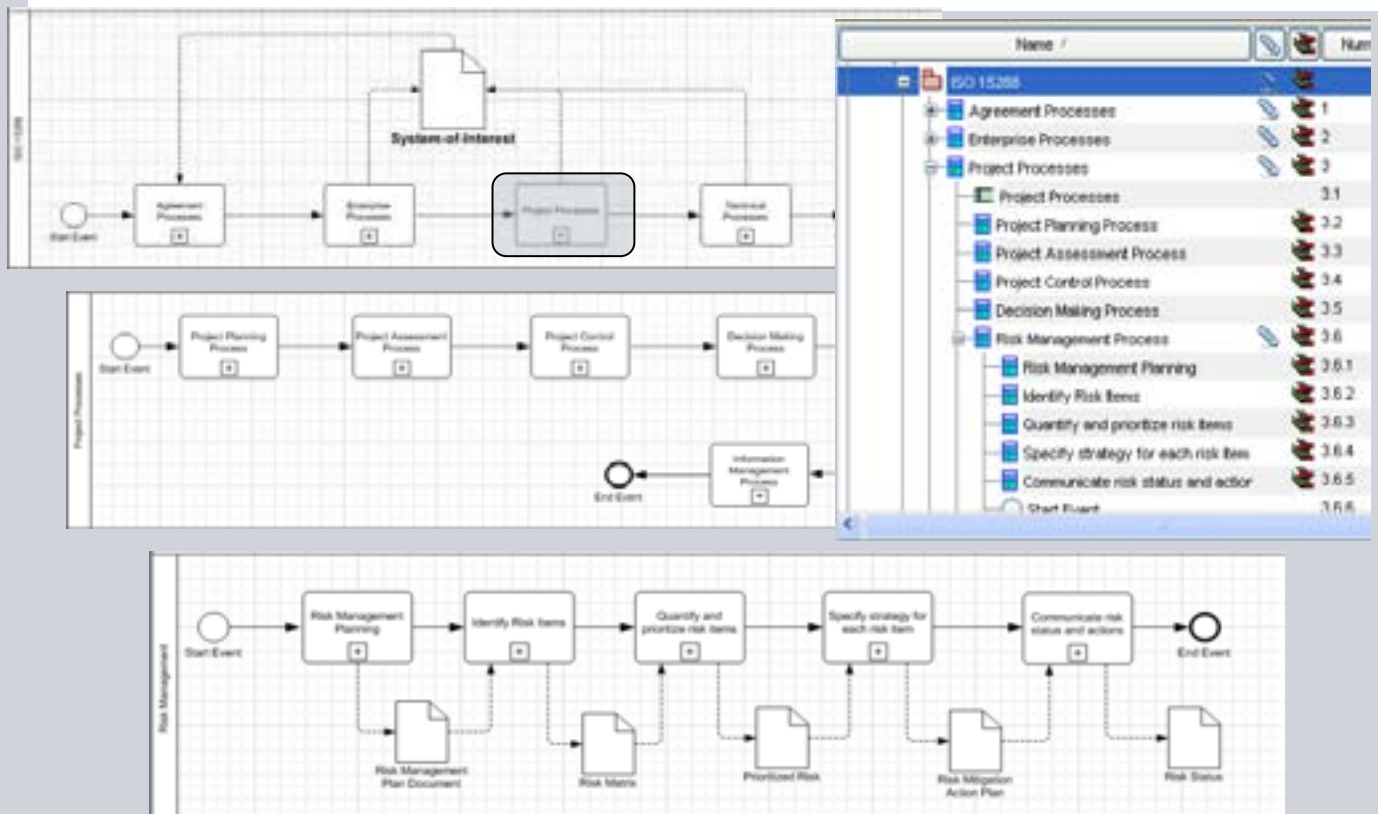


## BPMN template Business Process Modeling Notation

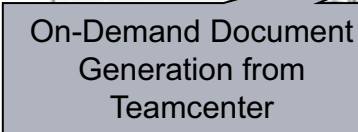


### A Context Diagram for Process

## BPMN template example ISO 15288 Process Hierarchy with Visio Live



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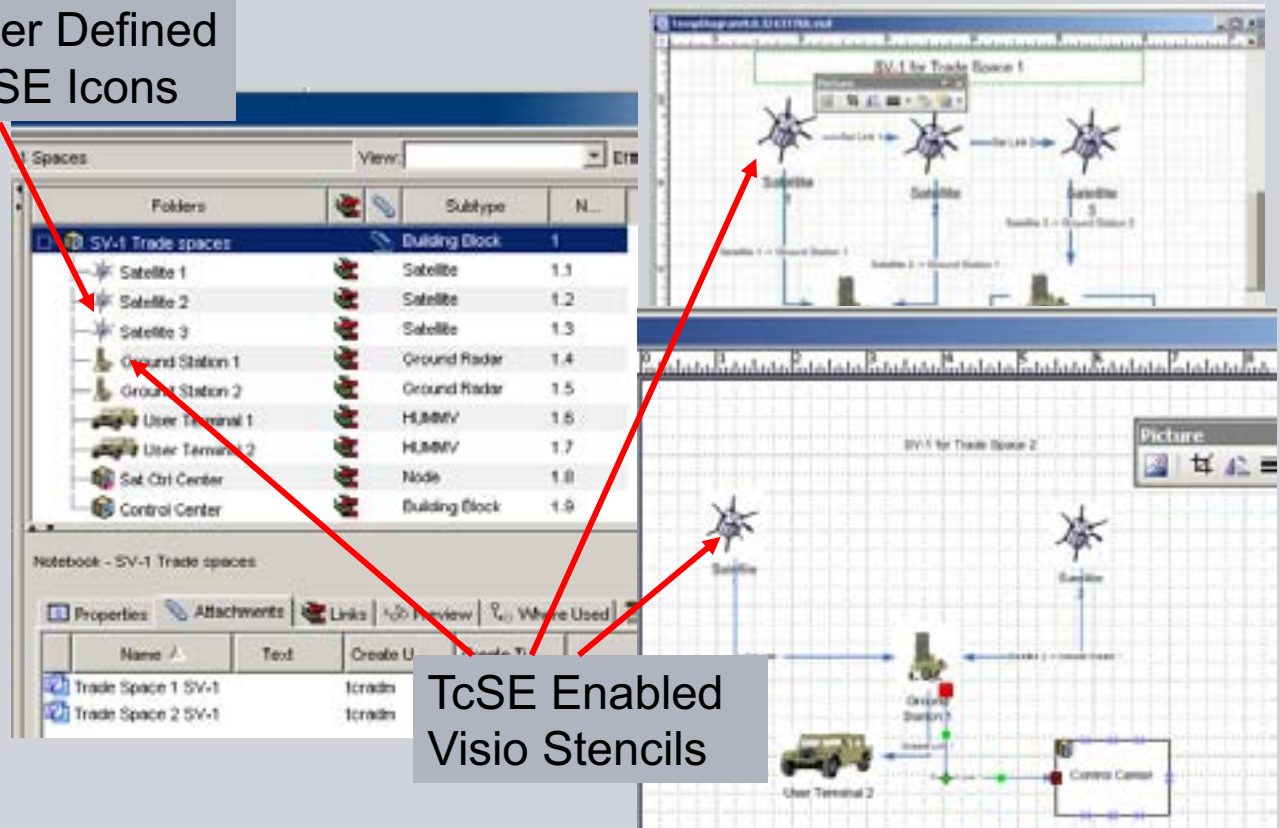


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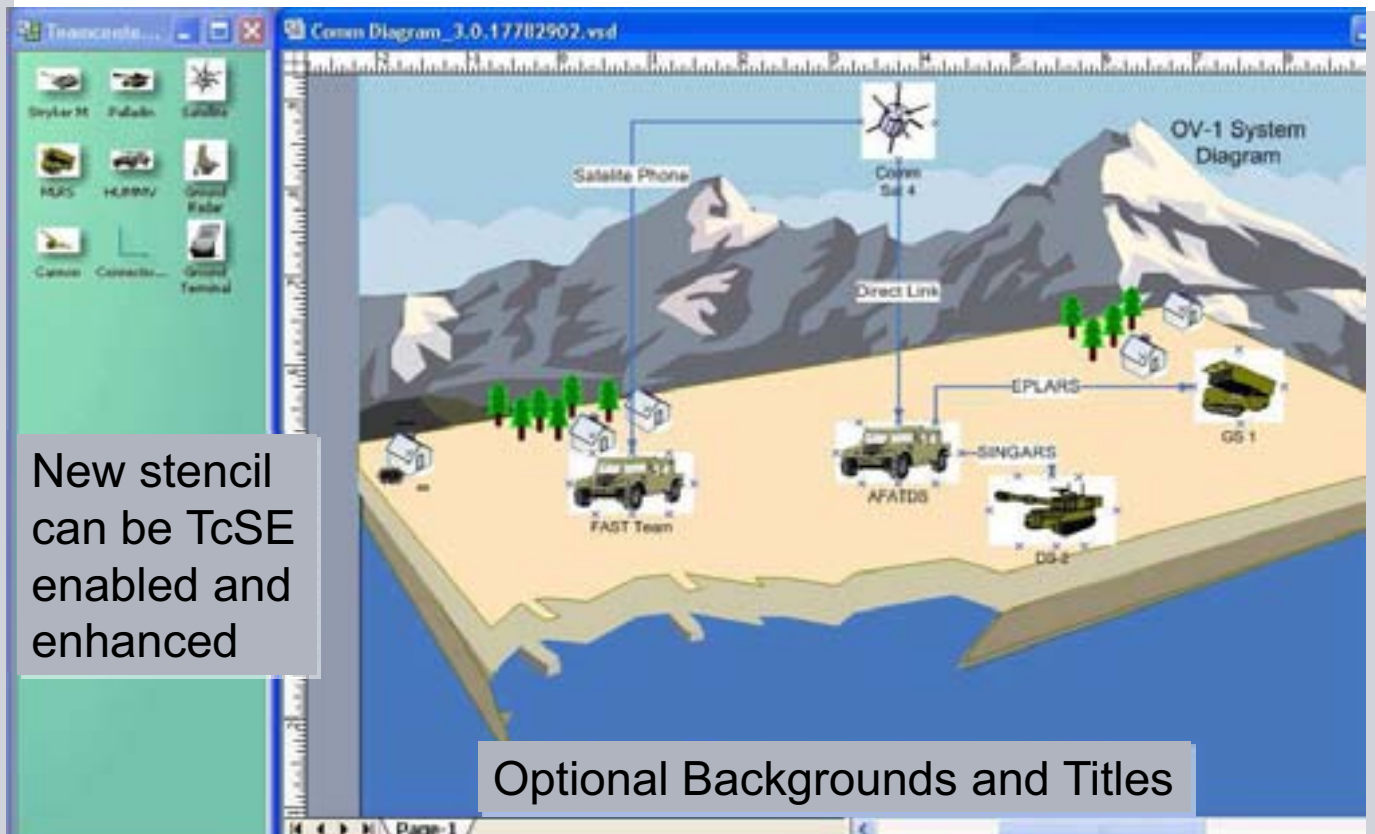
## DODAF template example SV-1 Objects in Teamcenter SE / Visio Diagrams

User Defined  
TcSE Icons



## DODAF template example Visio with the user Defined Stencil

New stencil  
can be TcSE  
enabled and  
enhanced





## Teamcenter can support CMMI and the processes from staged, continuous and roadmap perspective



<b>Name</b>	<b>Abbr</b>	<b>Level</b>
Requirements Management	REQM	2
Project Planning	PP	2
Project Monitoring and Control	PMC	2
Supplier Agreement Management	SAM	2
Measurement and Analysis	MA	2
Process and Product Quality Assurance	PPQA	2
Configuration Management	CM	2
Requirements Development	RD	3
Technical Solution	TS	3
Product Integration	PI	3
Verification	VER	3
Validation	VAL	3
Organizational Process Focus	OPF	3
Organizational Process Definition +IPPD	OPD +IPPD	3
Organizational Training	OT	3
Integrated Project Management +IPPD	IPM +IPPD	3
Risk Management	RSKM	3
Decision Analysis and Resolution	DAR	3
Organizational Process Performance	OPP	4
Quantitative Project Management	QPM	4
Organizational Innovation and Deployment	OID	5
Causal Analysis and Resolution	CAR	5

## Teamcenter for Software Requirements Management



**Teamcenter helps capture the Voice of the Customer (VOC) by providing the glue that sticks the VOC to the deliverable.**

- 1. Collaborative Requirements management--otherwise you may be managing the wrong thing**
- 2. Connected Requirements**
- 3. Accurate, up-to-date documentation as by-product**
- 4. Web-based UI**
- 5. Short learning curves**
- 6. Integrations and templates**

# Questions?

Contact:

[cor.visser@siemens.com](mailto:cor.visser@siemens.com)

## FDA Recalls Alcon Lasik Laser

*Unusual reports of patient complications leads to recall of all LADARVision 6000 units worldwide.*

WASHINGTON DC / February 21, 2007

All US Alcon LADARVision 6000 excimer lasers used for the popular Lasik laser eye surgery have been affected by an FDA recall after patients experienced an unusually high percentage of serious complications.

The LADARVision 6000 CustomCornea software algorithm installed in the laser platform is the component of the device recalled. Only the algorithm has been recalled, not the entire LADARVision 6000 laser.

